

## CLAIMS

**We claim:**

1. A system for testing semiconductor devices, comprising:  
a force retainer mounted on a material handler; and  
a force locator interposed between the force retainer and a circuit board and, together  
with the force retainer, adapted to prevent the circuit board from bending.
  
2. The system of claim 1 where the force retainer comprises:  
outer and inner rings; and  
a plurality of ribs connecting the outer ring to the inner ring.
  
3. The system of claim 1  
where the system comprises a test head including a plurality of connectors;  
where the force retainer comprises a plurality of openings between adjacent ribs; and  
where the plurality of connectors protrude through the plurality of openings.
  
4. The system of claim 1 where the force retainer is steel.
  
5. The system of claim 1 where the force retainer is cast iron.
  
6. The system of claim 1 where the force locator is mounted on the circuit board.
  
7. The system of claim 1 where the force locator has a same shape as a probe  
head.
  
8. The system of claim 1 where the force locator is adjustable to accommodate  
spacing limitations between the circuit board and the force retainer.
  
9. A tester, comprising:  
a top plate on a material handler; and  
a force retainer fixedly mounted on the top plate, the force retainer including an outer  
ring connected to an inner ring by a plurality of ribs.

10. The tester of claim 9 comprising  
an interface unit removably mounted on the force retainer and including a force locator, the force locator being fixedly mounted on a circuit board.

5 11. The tester of claim 10 where the interface unit comprises a probe head attached to the circuit board on one side and having contact pins protruding from another side.

12. The tester of claim 11 where the force locator is a same shape as the probe  
10 head.

13. The tester of claim 10 where the interface unit comprises a circuit board stiffener ring mounted on the circuit board and surrounding the force locator.

15 14. The tester of claim 9 comprising  
a test head adapted to provide electrical signals to the device under test through at least one connector, the at least one connector protruding from at least one open portion between adjacent ribs.

20 15. A method of testing semiconductor devices, comprising:  
fixedly mounting a force retainer to a material handler; and  
removably mounting an interface unit to the force retainer.

16. The method of claim 15 comprising mounting a force retainer on the interface  
25 unit.

17. The method of claim 15 comprising providing the force retainer with inner and outer rings connected with a plurality of ribs.

30 18. The method of claim 15 comprising:  
positioning a test head on one side of the handler;  
providing the test head with at least one connector; and  
threading the connector through the force retainer.

19. The method of claim 10 comprising:  
bringing a device under test into contact with the interface unit thereby creating a  
probe force;  
5 directing the probe force from the interface unit to the force retainer; and  
retaining the probe force using the force retainer.

20. The method of claim 10 comprising distributing a probe force on the force  
retainer using the force locator.

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